AC 135-9

DATE 5/30/81

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

FAR GUIDANCE MATERIAL

Subject: FAR PART 135 ICING LIMITATIONS

1. PURPOSE. To provide information and guidance to commuter air carriers and air taxi operators concerning the requirements of Federal Aviation Regulations (FAR) Part 135, Section 135.227, Icing Conditions: Operating Limitations.

2. FOCUS. The information in this Advisory Circular (AC) applies to certificate holders using aircraft that are not certificated for operations into icing conditions.

3. RELATED READING MATERIAL. Airman's Information Manual; AC 00-45B, Aviation Weather Services, issued 1979; and AC 91-51, Airplane Deice and Anti-ice Systems, issued September 15, 1977.

4. BACKGROUND.

a. Part 135 was initially issued in 1964. It contained requirements regarding operations in icing conditions in Section 135.85 for air taxi operations under both Visual Flight Rules (VFR) and Instrument Flight Rules (IFR). Section 135.85 did not contain references to operations for aircraft certificated for operations in icing conditions. Flight into known or forecast heavy icing was prohibited.

b. In 1969, Section 135.85 was revised to include ice certification provisions as contained in Special Federal Aviation Regulation Number 23 (SFAR 23), issued the same year, for small airplanes and those ice certification rules that pertained to transport category aircraft. Flight into known or forecast severe icing conditions was permitted in airplanes that met these ice protection provisions.

c. Provisions for certification of ice protection equipment on small airplanes were incorporated into Part 23 of the Federal Aviation Regulation in 1973. Prior to that year, ice protection type certification approvals for small airplanes were made by policy based on requirements in Civil Air Regulations, Part 3 and 4b.

d. In the Part 135 Regulatory Review in 1977, a revised Section 135.85 was proposed that would require aircraft to meet ice certification standards to operate under IFR in forecast or known light or moderate icing conditions. Aircraft not meeting these standards would be limited to VFR operations in similar icing conditions.

e. The proposed change to Section 135.85 was not included in the revised Part 135 issued in 1978. Additional study of this problem was deemed appropriate. The icing operating limitations in the revised air taxi rules (Section 135.227) are almost identical to old Section 135.85.

5. IMPLEMENTATION OF REVISED PART 135. After revised Part 135 became effective in December 1978, FAA Flight Standards Offices were informed that there had been no change in policy in the applicability of new Section 135.227. Therefore, aircraft could be operated in forecast or known light or moderate icing under VFR or IFR rules if it was equipped as required in Section 135.227 and this equipment was functioning, unless the aircraft was prohibited by operating limitations from operating in icing conditions.

6. OPERATING LIMITATIONS FOR ICING OPERATIONS.

a. When ice certification requirements were included in Part 23, the operating limitations were shown in the limitation section of the flight manual or manual material. Placards were used to display these limitations.

b. Prior to the early 1960's, no criteria was available regarding ice certification for small aircraft. Between that time and 1973, ice protection authorizations were based on FAA policy and regulations. Those aircraft were limited to flight into light or moderate icing conditions.

c. In 1973, new Part 23 ice certification rules became effective which contained a standard that the aircraft must be capable of operations into continuous maximum or intermittent maximum icing conditions, which was a more stringent requirement than the previous policy. However, many aircraft were being manufactured after 1973 and equipped with deicing or anti-icing equipment under type certificates issued prior to 1973.

d. After 1973, some manufacturers continued to produce these aircraft with the previously approved equipment installed rather than recertificate to meet the new icing certification standards. For those aircraft that did not meet the new icing certification standards, placards were installed prohibiting flight in icing conditions. Thus, of many aircraft of the same make and model with identical ice protection equipment, some were placarded because they were manufactured after 1973 whereas those aircraft manufactured prior to 1973 were not.

e. FAR 91.31(a) states that no person may operate a civil aircraft without compliance with the operating limitations. Therefore, an aircraft containing a placard specified in the limitations of the aircraft type certificate, or as a limitation in the current operating limitation prescribed for that aircraft by the Administrator, must be operated in accordance with that limitation.

f. FAR 135.3 provides that each person operating an aircraft under Part 135 shall comply with applicable rules of Title 14 of the Code of Federal Regulations which include FAR Parts 21, 23, 25, 43, 61, and 91 which are pertinent to this subject. Some aircraft have operating limitations prohibiting operation in known icing conditions. These aircraft may not operate in icing conditions unless this operating limitation is removed. The icing limitation may be removed by amending the aircraft type certificate. The FAA Engineering and Manufacturing District Office can provide guidance to amend an aircraft type certificate.

7. OPERATIONS IN ICING CONDITIONS UNDER PART 135. Commuters and air taxi operators are utilizing aircraft with various operating limitations in weather conditions where icing is a factor. Therefore, clarification of the pertinent operating requirements is necessary. The following is pertinent to the type of operations authorized:

a. Aircraft equipped with functioning equipment meeting Section 135.227(b) and not placarded restricting operations in icing conditions may fly under IFR or VFR rules in known or forecast light or moderate icing and continue flight in actual icing conditions.

b. Aircraft equipped with functioning equipment meeting Part 135.227(b) and a placard prohibiting operation in icing conditions may depart on a flight when light or moderate icing is forecast or reported to exist for the intended route to be flown. However, continued flight in actual icing conditions is not permitted since such flight does not comply with the placard or the operating limitation in the aircraft flight manual.

c. Airplanes that have the ice protection provisions that meet Section 34 of Appendix A of Part 135, that are type certificated with the ice protection provisions of Part 23, or those for transport category airplane type certification may be flown into known or forecast icing.

8. FLIGHT OPERATIONS ADVISORY INFORMATION.

a. Pre-flight planning.

(1) Any flight involving operations into forecast or known icing conditions, under VFR or IFR, should be preceded by extensive flight planning and weather analysis with special attention to an alternate course of action in case actual icing is encountered.

(2) Flight in actual icing is authorized when the aircraft is equipped as specified in Section 135.227(b) and placards or operating limitations do not restrict such an operation. However, continuous flight in actual icing is not recommended, and the pilot should alter flightpath to an area where ice accumulation is not a factor.

b. Operations in severe icing. Although aircraft that meet the ice protection requirements of Appendix A of Part 135, Part 23, or those for transport category airplanes are not prohibited from operating in severe icing, it is recommended that such operations be avoided. Severe icing is described in the Aviation Weather Services, Advisory Circular (AC) 00-45B, and in the Airman's Information Manual as follows: the rate of accumulation is such that deicing/anti-icing equipment fails to reduce or control the hazard. Immediate flight diversion is necessary.

9. AC 91-51, AIRPLANE DEICE AND ANTI-ICE SYSTEMS. It is recommended this advisory circular be reviewed since it contains guidance on the use of deice and anti-ice systems and flight procedures in icing conditions.

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